UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
2004/00022

August 18, 2004

Mr. Lawrence Evans
U.S. Army Corps of Engineers, Portland District
P.O. Box 2946
Portland, Oregon 97208-2946

Re: Draft Endangered Species Act Section 7 Formal Consultation for the Grande Ronde River Streambank Stabilization Project, Upper Grande Ronde Subbasin. Union County, Oregon (Corps No.: 2001-00954-1)

Dear Mr. Evans:

The enclosed document contains a biological opinion (Opinion) prepared by NOAA's National Marine Fisheries Service (NOAA Fisheries) pursuant to section 7(a)(2) of the Endangered Species Act (ESA) on the effects of Grande Ronde River Streambank Stabilization Project. In this Opinion, NOAA Fisheries concludes that the proposed action is not likely to jeopardize the continued existence of Snake River (SR) spring/summer Chinook salmon or SR steelhead or result in the destruction or adverse modification of critical habitat. The Opinion also includes an incidental take statement with terms and conditions necessary to minimize the impact of taking that is reasonably likely to be caused by this action. Take from actions by the action agency and applicant, if any, that meet these terms and conditions will be exempt from the ESA take prohibition.

This document also includes the results of our consultation on the action's likely effects on essential fish habitats (EFH) pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), and includes conservation recommendations to avoid, minimize, or otherwise offset potential adverse effects on EFH. Section 305(b)(4)(B) of the MSA requires Federal agencies to provide a detailed written response to NOAA Fisheries within 30 days after receiving these recommendations. If the response is inconsistent with the recommendations, the Corps of Engineers must explain why the recommendations will not be followed, including the justification for any disagreements over the effects of the action and the recommendations.

If you have questions regarding this consultation, please contact Eric Murray of my staff in the Eastern Oregon Branch of the Oregon State Habitat Office, at 541.975.1835, ext. 222.

Sincerely,

for Michael R Crouse

D. Robert Lohn
Regional Administrator

cc: Steve Willie, USFWS
Jeff Zakel, ODFW

Endangered Species Act – Section 7 Consultation
Biological Opinion

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Magnuson-Stevens Fishery Conservation and Management Act
Essential Fish Habitat Consultation

Grande Ronde River Streambank Stabilization Project
Upper Grande Ronde Subbasin
Union County, Oregon
(Corps No. 2001-00954-1)

Agency:	Corps of Engineers
Consultation Conducted By:	NOAA's National Marine Fisheries Service, Northwest Region
Date Issued:	August 18, 2004
Issued by:	F.r Michael R Crowe _____ D. Robert Lohn Regional Administrator
NOAA Fisheries No.:	**2004/00022**

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INTRODUCTION

This document prepared by NOAA's National Marine Fisheries Service (NOAA Fisheries) includes a biological opinion (Opinion) and incidental take statement in accordance with section 7(b) the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq*.), and implementing regulations at 50 CFR 402. The essential fish habitat (EFH) consultation was prepared in accordance with section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) (16 U.S.C. 1801 *et seq*.) and implementing regulations at 50 CFR 600. The administrative record for this consultation is on file at the Eastern Oregon Branch of the Oregon State Habitat Office.

Background and Consultation History

NOAA Fisheries received a letter requesting formal ESA section 7 consultation, a complete biological assessment (BA), and a complete EFH assessment for the Grande Ronde River Streambank Stabilization Project (Project) on January 15, 2004, and consultation was initiated. On March 3, 2004, NOAA Fisheries conducted a site visit to the project area. On March 16, 2004, NOAA Fisheries met with the U.S. Army Corps of Engineers (COE), U.S. Fish and Wildlife Service (USFWS), Bureau of Reclamation (BOR), Union County Soil and Water Conservation District (SWCD), and the landowner to discuss Project design and ways to minimize impacts to ESA-listed fish. On April 1, 2004, the COE sent additional information to NOAA Fisheries indicating that the proposed action had been slightly modified. The use of a streambed material cofferdam to isolate the work area had been changed to the use of sandbags.

The BA states that the purpose of the proposed Project is to restore a bank scour area and improve fish habitat. The objective of this Opinion is to determine whether the Project is likely to jeopardize the continued existence of Snake River (SR) steelhead or SR spring/summer Chinook salmon or adversely modify designated critical habitat for SR spring/summer Chinook salmon.

On June 7, 2004, NOAA Fisheries issued a draft biological opinion to the COE on the proposed Project. This draft concluded that the Project was not likely to jeopardize the continued existence of SR spring/summer Chinook salmon or SR steelhead but did conclude that the proposed project was likely to adversely modify designated critical habitat for SR Chinook salmon. Accordingly, NOAA Fisheries provided three proposed reasonable and prudent alternatives (RPAs) to the proposed action that would avoid adverse modification of designated critical habitat.

On July 19, 2004, the SWCD notified the COE and NOAA Fisheries that they had decided to modify the proposed Project to be consistent with RPA#1 provided in the NOAA Fisheries June 7 draft Opinion. This consultation will be on the proposed Project as modified.

Proposed Action

For purposes of this consultation, the proposed action is the COE's issuance of a permit under section 404 of the Clean Water Act for the Project on the Grande Ronde River in the Upper Grande Ronde subbasin.

The permit applicant proposes to reshape and backfill a 1,100-foot stretch of eroding streambank on the Grande Ronde River to a 3:1 slope. Large rock (700 pound or larger) will be placed at the toe of the streambank. Live willow stakes will be planted in a 3-foot grid pattern from the top of the toe rock to an elevation of 2 feet above the rock. All disturbed areas will be replanted with a mixture of native seed. Twenty-two, 3-foot root wads will be added for additional bank stabilization. The root wads will be keyed into the streambank and anchored with large boulders.

Construction activities will be performed during the Oregon Department of Fish and Wildlife (ODFW) in-water work window for the area, July 1 to October 15. During this time, flow in the river will be low and the work area will be isolated by installation of a sandbag cofferdam.

After completion of these activities the Project area will be enrolled in the Farm Service Agencies Conservation Reserve Enhancement Program (CREP).

The following conservation measures are included in the proposed Project:

- Equipment will work from the bank as much as is practical and will be maintained in a leak-free condition.
- An SWCD technician will provide on-site administration and inspections during construction activities.
- Disturbed ground will be revegetated with native, weed-free seed.
- Equipment refueling and servicing will not occur within 200 feet of the water.
- A spill plan will be developed with the contractor, and spill containment equipment will be on hand at all times.
- Implementation and effectiveness monitoring including photo-point establishment, annual project inspection, and assessment of project results will be conducted by the SWCD.

Action Area

"Action area" means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). For purposes of this consultation, the action area is the portion of Grande Ronde River from the bridge on McKennon Lane to the downstream extent of the sediment plume generated by the Project, approximately one mile. This area is in the unincorporated portion of Union County, approximately 1.5 miles southeast of Imbler, Oregon. The legal description of the project area is Union County, T1S, R39E, Sec. 28 and 33.

The action area is used as a migratory corridor by SR spring/summer Chinook salmon and SR steelhead. The action also provides some marginal rearing habitat for these species during the spring, fall, and winter. This area is within designated critical habitat for SR spring/summer Chinook salmon. The action area has also been designated as essential fish habitat (EFH) under the MSA for Chinook and coho salmon (*O. kisutch*) (PFMC 1999).

ENDANGERED SPECIES ACT

The ESA establishes a national program for conserving threatened and endangered species of fish, wildlife, plants, and the habitat on which they depend. Section 7(a)(2) of the ESA requires Federal agencies to consult with USFWS and NOAA Fisheries, as appropriate, to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or adversely modify or destroy their critical habitats. Section 7(b)(4) requires the provision of an incidental take statement specifying the impact of any incidental taking and specifying reasonable and prudent measures to minimize such impacts.

Biological Opinion

This Opinion presents NOAA Fisheries' review of the status of each evolutionarily significant unit (ESU)[1] considered in this consultation and critical habitat, the environmental baseline for the action area, all the effects of the action as proposed, and cumulative effects. NOAA Fisheries analyzes those combined factors to conclude whether the proposed action is likely to appreciably reduce the likelihood of both the survival and recovery of the affected ESUs, or is likely to destroy or adversely modify critical habitat (50 CFR 402.14(g)). If the action under consultation is likely to jeopardize an ESU, or destroy or adversely modify critical habitat, NOAA Fisheries must identify any reasonable and prudent alternatives for the action that avoid jeopardy or destruction or adverse modification of critical habitat and meet other regulatory requirements (50 CFR 402.02).

Status of the ESUs

This section defines range-wide biological requirements of each ESU, and reviews the status of the ESUs relative to those requirements. The present risk faced by each ESU informs NOAA Fisheries' determination of whether additional risk will 'appreciably reduce' the likelihood that an ESU will survive and recover in the wild. The greater the present risk, the more likely any additional risk resulting from the proposed action's effects on the population size, productivity (growth rate), distribution, or genetic diversity of the ESU will be an appreciable reduction (McElhaney *et al.* 2000).

[1] 'ESU' means an anadromous salmon or steelhead population that is either listed or being considered for listing under the ESA, is substantially isolated reproductively from conspecific populations, and represents an important component of the evolutionary legacy of the species (Waples 1991). An ESU may include portions or combinations of populations more commonly defined as stocks within or across regions.

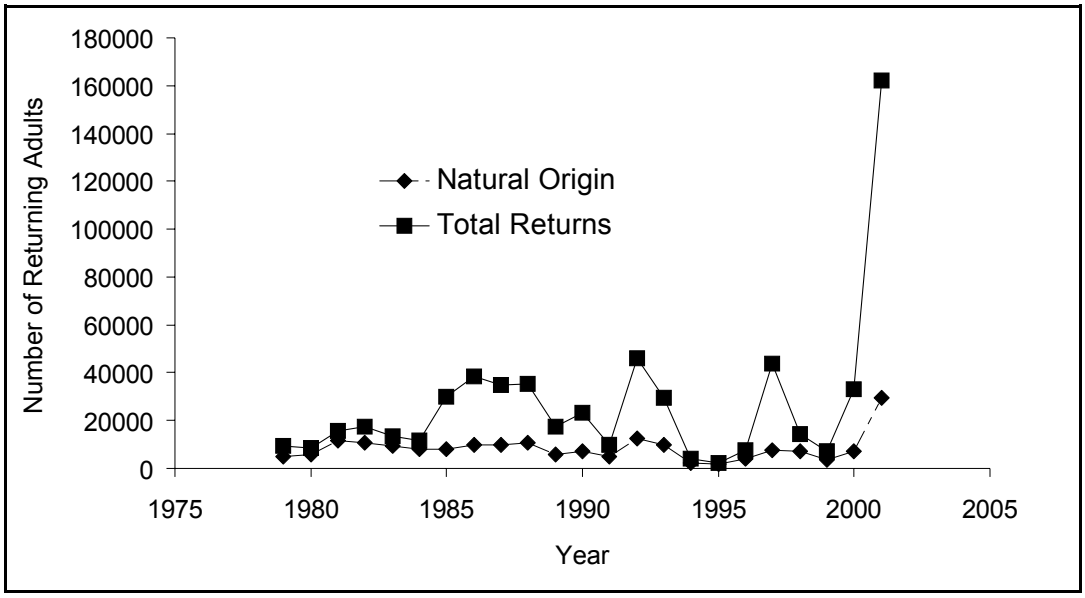
Snake River (SR) Spring/Summer Chinook Salmon

The SR spring/summer Chinook ESU was listed as threatened, and protective regulations were issued under section 4(d) of the ESA, on April 22, 1992 (57 FR14653). This ESU occupies the Snake River basin, which drains portions of southeastern Washington, northeastern Oregon, and north/central Idaho. Environmental conditions are generally drier and warmer in these areas than in areas occupied by other Chinook ESUs. The Grande Ronde River system, in northeastern Oregon and contributes to SR basin spring/summer Chinook salmon production.

SR spring/summer Chinook exhibit a stream-type life history. Juvenile fish mature in fresh water for one year before they migrate to the ocean in the spring of their second year. Adults re-enter the Columbia River in late February and early March after two or three years in the ocean. In high elevation areas, mature fish hold in cool, deep pools until late summer and early fall, when they return to their native streams to begin spawning. Eggs incubate through the fall and winter and emergence begins in the late winter and early spring.

Direct estimates of historical annual SR spring/summer Chinook returns are not available. However, according to Matthews and Waples (1991), total annual SR spring/summer Chinook production may have exceeded 1.5 million adult fish in the late 1800s. Total (natural- + hatchery-origin) returns fell to roughly 100,000 spawners by the late 1960s (Fulton 1968) and were below 10,000 by 1980 (BRT 2003). Between 1981 and 2000, total returns fluctuated between extremes of 2,400 and 43,000 fish. The 2001 total return increased to over 162,000 adults (Figure 1). However, it is important to note that over 80% of these returning adults originated in hatcheries (BRT 2003).

Figure 1. Annual Snake River Adult Spring/Summer Chinook Salmon Returns Over Lower Granite Dam. (adapted from BRT 2003).



Natural-origin SR spring/summer Chinook returns over the Lower Granite Dam fluctuated between 1,800 and 12,500 fish during the period of 1980 to 1999 (Figure 1). Despite brief increases in the 1992, 1993, and 1997 returns, natural returns were consistently lowest during the1990s. Five-year averages of natural-origin returns show a distinct downward trend with time. The five-year, natural-origin return averages for 1980-1984, 1985-1989, 1990-1994, and 1995-1999, were 9,090, 8,820, 7,380, and 4,810 fish, respectively. Estimated natural-origin returns for 2000 and 2001 increased to 7,200 and 29,300 fish, respectively (BRT 2003).

The natural-origin SR spring/summer Chinook population growth rate must exceed 1.0 for ESU growth. Long-term SR spring/summer Chinook population growth rate estimates are below 1.0 and reflect the large population declines seen from the 1960s through the late 1990s. Although natural-origin returns in 2000 and 2001 gave rise to positive short-term growth rates, they were still well below the interim abundance target of 41,900 natural-origin spawners needed for ESU population recovery (BRT 2003).

Critical habitat was designated for Snake River spring/summer Chinook salmon on December 28, 1993 (58 FR 68543) and was revised on October 25, 1999 (64 FR 57399). The proposed actions discussed in this Opinion are within designated critical habitat for SR spring/summer Chinook salmon. Critical habitat for SR spring/summer Chinook salmon encompasses the major Columbia River tributaries known to support this ESU including the Salmon, Grande Ronde, Imnaha, and Snake as well as the Columbia River and estuary. Critical habitat consists of all waterways below long-standing (more than 100 years duration) naturally-impassable barriers,

and therefore includes the Project area. The riparian zone beside these waterways is also considered critical habitat. This zone is defined as the area that provides the following functions: Shade, sediment, nutrient/chemical regulation, streambank stability, and input of large woody debris/organic matter.

Essential features of the adult spawning, juvenile rearing, and adult migratory habitat for the SR spring/summer Chinook salmon are: Substrate, water quality, water quantity, water temperature, water velocity, cover/shelter, food, riparian vegetation, space, and safe passage conditions. The essential features that the project may affect are: Substrate, water quality, water temperature, water velocity, cover/shelter, food, and riparian vegetation.

Snake River (SR) Steelhead

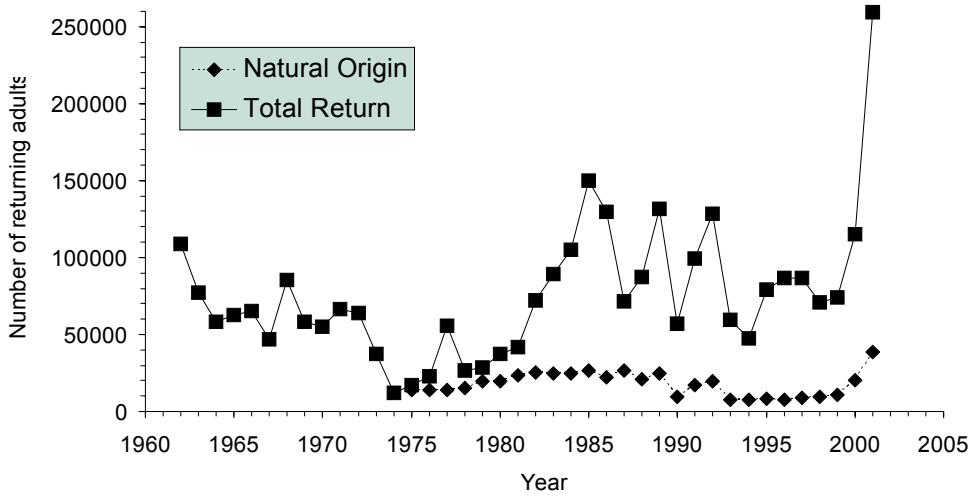
The SR steelhead ESU was listed as threatened on August 18, 1997 (62 FR43937) and protective regulations were issued under section 4(d) of the ESA on July 10, 2000 (65 FR 42422). This ESU occupies the Snake River Basin, which drains portions of southeastern Washington, northeastern Oregon, and north/central Idaho. Environmental conditions are generally drier and warmer in these areas than in areas occupied by other steelhead ESUs in the Pacific Northwest. The Grande Ronde River system is in northeastern Oregon and is one of the principal contributors to steelhead production in the Snake River Basin.

The SR steelhead run is considered a summer run based on the timing of adult upstream migration and consists of both A-run fish and B-run fish. A-run fish spend one year in the ocean before returning to spawn while the larger, B-run steelhead spend two years at sea before they return to spawn. The Grande Ronde steelhead run consists primarily of A-run fish.

Adult SR steelhead enter the Columbia River in the summer and migrate upriver until they spawn between March and May of the following year. There are few annual estimates of steelhead returns for specific production areas within the Snake River Basin. Most stream return estimates are extrapolated from returns over the Ice Harbor and Lower Granite Dams. Annual estimates of total (natural- + hatchery-origin) returns steadily declined from about 110,000 to about 12,000 fish between 1962 and 1974. This was a nearly 90% decline over eight years.

Estimated total return steadily climbed to approximately 130,000 spawners by 1986, but then oscillated, on a three-year cycle, between about 130,000 and 40,000 individuals until 1994 (Busby *et al.* 1996). Returns then fluctuated between 70,000 and 90,000 from 1995 to 1999, and increased to approximately 260,000 fish in 2001 (BRT 2003) (Figure 2). However, the overwhelming majority of these increases is due to returning hatchery-produced fish. It is estimated that natural-origin spawners only accounted for about 15% of these returns (BRT 2003).

Figure 2. Annual Snake River Adult Steelhead Returns Over Lower Granite Dam. (adapted from BRT 2003).



Natural-origin returns were estimated at 14,000 fish in 1975, then steadily climbed to, and held at, close to 27,000 fish between 1985 and 1987. Returns steadily declined to about 7,000 natural-origin spawners by 1994 (Busby *et al.* 1996). Recent counts of natural-origin spawners at the Lower Granite Dam increased to approximately 39,000 fish in 2001. However, this is still below the interim recovery target of 53,700 natural-origin spawners needed for population recovery of the ESU.

In order for the ESU population to increase, the growth rate for the natural-origin population must exceed 1.0. The ESU's exact population growth rate is not known, but it lies somewhere between best case estimates that assume no hatchery-origin fish account for natural production, and worst case estimates that assume both hatchery and wild fish contribute to natural production in proportion to their numbers. Short-term growth rate estimates range between 1.013 and 0.753 for the ESU (BRT 2003). However, median long-term growth rate estimates range from 0.998 to 0.733. Thus, despite recent increases in total steelhead returns to the Snake River Basin, it is likely that the natural-origin SR steelhead population is actually decreasing.

Important features of the adult spawning, juvenile rearing, and adult and migratory habitat for this species are: Substrate, water quality, water quantity, water temperature, water velocity, cover/shelter, food (juvenile only), riparian vegetation, space, and safe passage conditions. (Bjornn and Reiser 1991; NOAA Fisheries 1996b; Spence *et al.* 1996).

Environmental Baseline

The 'environmental baseline' includes the past and present impacts of all Federal, state, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of state or private actions which are contemporaneous with the consultation in process (50 CFR 402.02). For projects that are ongoing actions, the effects of future actions over which the Federal agency has discretionary involvement or control will be analyzed as 'effects of the action.'

NOAA Fisheries describes the environmental baseline in terms of the biological requirements for habitat features and processes necessary to support life stages of the subject ESUs within the action area. When the environmental baseline departs from those biological requirements, the adverse effects of a proposed action on the ESU or its habitat are more likely to jeopardize the listed species or result in destruction or adverse modification of critical habitat (NMFS 1999). The biological requirements of salmon and steelhead in the action area vary depending on the life history stage present and the natural range of variation present within that system (Groot and Margolis 1991; NRC 1996; Spence *et al.* 1996).

Generally, during spawning migrations, adult salmon require clean water with cool temperatures and access to thermal refugia, dissolved oxygen near 100% saturation, low turbidity, adequate flows and depths to allow passage over barriers to reach spawning sites, and sufficient holding and resting sites. Anadromous fish select spawning areas based on species-specific requirements of flow, water quality, substrate size, and groundwater upwelling. Embryo survival and fry emergence depend on substrate conditions (*e.g.*, gravel size, porosity, permeability, and oxygen concentrations), substrate stability during high flows, and, for most species, water temperatures of 13˚C or less. Habitat requirements for juvenile rearing include seasonally suitable microhabitats for holding, feeding, and resting. Migration of juveniles to rearing areas, whether the ocean, lakes, or other stream reaches, requires unobstructed access to these habitats. Physical, chemical, and thermal conditions may all impede migrations of adult or juvenile fish.

Each ESU considered in this Opinion resides in, or migrates through, the action areas. For this action area, the biological requirements for salmon and steelhead are the habitat characteristics that would support successful spawning, rearing, and migration.

Environmental baseline conditions within the action area were evaluated for the subject actions at the watershed scale. The results of this evaluation, based on the "matrix of pathways and indicators" (MPI) described in *Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NOAA Fisheries 1996), follow. This method assesses the current condition of instream, riparian, and watershed factors that collectively provide properly functioning aquatic habitat essential for the survival and recovery of the species.

The COE rated habitat access as "properly functioning." Substrate, pool frequency, pool quality, width to depth ratios, streambank condition, peak/base flows, drainage network increase, road density and location, disturbance history, and, riparian reserves were rated as "functioning at risk." Temperature, sediment, chemical contaminants/nutrients, large woody debris, off-channel habitat, refugia, and floodplain connectivity were rated as "not properly functioning."

NOAA Fisheries believes that some habitat indicators may be rated too conservatively. For instance, change in peak/base flow was rated as "functioning at risk." However, irrigation withdrawals during the summer have reduced base flows considerably. Additionally, historic timber harvest in the upper watersheds of the subbasin, in combination with increased drainage network due to road building and channelization of some stream reaches, has resulted in increased peak flows and more frequent floods (Wissmar *et al.* 1994; U.S. Forest Service 2004).

The Upper Grande Ronde River Subbasin is a highly disturbed riverine system degraded by past and present timber harvest, mining, livestock grazing, flood control, and water withdrawal for irrigation (Wissmar *et al.* 1994; McIntosh *et al.* 1994; U.S. Forest Service 2004). The Grande Ronde River within the action area and immediately upstream has been channelized for flood control, thereby cutting off two large meanders, decreasing habitat complexity, and increasing channel gradient. Herbicide is applied to the streambanks every two or three years, resulting in sparse and stunted riparian vegetation that is incapable of holding streambanks together during high flows.[2] Due to habitat degradation, the action area for the Project no longer provides spawning or summer rearing habitat for SR spring/summer Chinook salmon or SR steelhead. The area now functions only as a migration corridor and provides some marginal rearing habitat during times when stream temperatures are suitable for salmonids.

Before settlement in the 1800s, the Grande Ronde River in the Project area was a highly sinuous, low gradient stream with wide floodplains. As agriculture and urbanization increased in the Grande Ronde Valley, the river was straightened and meanders were blocked. After high flow events in the 1960s, a series of levees was built along the Grande Ronde River for flood control. As a result of the decreased sinuosity and channel length, the river gradient is steeper through the valley. Energy is dissipated over a shorter length of channel and bank erosion is common as the river attempts to establish new meanders. The Grande Ronde River naturally trends toward the more sinuous natural channel morphology that would better support the proper functioning condition essential to the conservation of listed salmonids.

Bank stabilization and channel control structures are prevalent throughout the Upper Grande Ronde River subbasin. Small rock, large riprap, gabions, concrete, and wood structures are used to arrest bank erosion caused in large part by the channelization of the mainstem Grande Ronde and its tributaries. As a result, fish habitat complexity throughout the subbasin is greatly reduced.

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[2] Conversation with applicant during a March 16, 2004, meeting, regarding application of herbicides in the action area.

Effects of the Action

"Effects of the action" means the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, that will be added to the environmental baseline (50 CFR 402.02). If the proposed action includes offsite measures to reduce net adverse impacts by improving habitat conditions and survival, NOAA Fisheries will evaluate the net combined effects of the proposed action and the offsite measures.

"Interrelated actions" are those that are part of a larger action and depend on the larger action for their justification; 'interdependent actions' are those that have no independent utility apart from the action under consideration (50 CFR 402.02). Future Federal actions that are not a direct effect of the action under consideration, and not included in the environmental baseline or treated as indirect effects, are not considered in this Opinion.

"Indirect effects" are those that are caused by the proposed action and are later in time, but still are reasonably certain to occur (50 CFR 402.02). Indirect effects may occur outside the area directly affected by the action, and may include other Federal actions that have not undergone section 7 consultation but will result from the action under consideration.

Effects on Listed Species and Their Habitat.

The COE has determined that the proposed Project is likely to adversely affect SR steelhead and SR spring/summer Chinook salmon. Activities involving in-water and near water construction will cause short-term adverse habitat effects and will result in harassment or harm of SR steelhead juveniles and, potentially, SR Chinook salmon adults. In some years, water temperatures in the Grande Ronde River in the Project area are too high to be suitable for juvenile salmonids. However, stream temperatures are highly dependent on ambient air temperature, stream flow, and snow pack remaining in headwater areas. It is reasonably certain that some juvenile SR steelhead and adult SR Chinook salmon will be present during the instream work.

The construction activities proposed as part of this project will require instream operation of heavy machinery and exposure of large quantities of bare soil. This will produce sediment plumes sufficient to cause harm or harassment of any ESA-listed, anadromous salmonids present during construction activities and potentially during subsequent high flow events. Potential direct effects include mortality from exposure to suspended sediments (turbidity) and contaminants resulting for construction. Potential indirect effects include behavioral changes resulting from elevated turbidity level (Sigler *et al.* 1984; Berg and Northcote 1985; Whitman *et al.* 1982; Gregory and Levings 1998) during in-water construction.

Suspended sediment and turbidity influences on fish reported in the literature range from beneficial to detrimental. Elevated total suspended solids (TSS) have been reported to enhance cover conditions, reduce piscivorus fish/bird predation rates, and improve survival. Elevated TSS have also been reported to cause physiological stress, reduce growth, and adversely affect

survival. Of key importance in considering the detrimental effects of TSS on fish are the frequency and the duration of the exposure, not just the TSS concentration.

Juvenile salmonids tend to avoid streams that are chronically turbid, such as glacial streams or those disturbed by human activities, unless the fish need to traverse these streams along migration routes (Lloyd *et al.* 1987). Fish that remain in turbid, or elevated TSS, waters experience a reduction in predation from piscivorus fish and birds (Gregory and Levings 1998). However, research shows that chronic exposure can cause physiological stress responses that can increase maintenance energy and reduce feeding and growth (Redding *et al.* 1987; Lloyd 1987; Servizi and Martens 1991).

Increased sedimentation may also lead to increased embeddedness of spawning substrates downstream from the project. Fine, redeposited sediments also have the potential to adversely affect primary and secondary productivity (Spence *et al.* 1996), and reduce incubation success (Bell 1991) and cover for juvenile salmonids (Bjornn and Reiser 1991). Instream work scheduled for these projects will take place during the in-water window for the area (July 1 to October 15). Due to the typically low flows in the Project area during this time, sedimentation rates are expected to be minimized. However, due to the large scale of the Project, and the large amount of bare soil to be exposed, some sedimentation of substrates of downstream reaches will occur. Disturbance of riparian vegetation will result from operation of heavy machinery near the stream and could lead to decreased shade, increased water temperatures, and decreased streambank stability until riparian vegetation is re-established.

There is also the potential for fuel or other contaminant spills associated with use of heavy equipment in or near the stream. Operation of back-hoes, excavators, and other equipment requires the use of fuel, lubricants, *etc.*, which, if spilled into the channel of a waterbody or into the adjacent riparian zone, can injure or kill aquatic organisms. Petroleum-based contaminants (such as fuel, oil, and some hydraulic fluids) contain poly-cyclic aromatic hydrocarbons (PAHs), which can be acutely toxic to salmonids at high levels of exposure and can also cause mortailty and have acute and chronic sublethal effects on aquatic organisms (Neff 1985).

Instream construction will elevate the risk for chemical contamination of the aquatic environment within the action area. Because the potential for chemical contamination will be localized and brief, the probability of direct mortality is negligible. In-water work timing during the preferred in-water work period of July 1 through October 15 will minimize the risk from chemical contamination during in-water work activities.

NOAA Fisheries requires work area isolation and fish salvage efforts (capture and release) in the terms and conditions of this Opinion. Direct effects on juvenile MCR steelhead will occur in the form of harassment as they are moved from the action area. If SR spring/summer Chinook salmon or SR steelhead are present, biologists will move all juvenile salmonids from the instream isolation area by using methods such as snorkeling, herding, seining, electrofishing, or dip netting. Once these fish are frightened from cover and swim to open water, they become more susceptible to predation from larger fish and avian predators. After fish are removed from

the Project site, fish will be isolated from the construction site. Stress approaching or exceeding the physiological tolerance limits of individual fish can impair reproductive success, growth, resistance to infectious diseases, and general survival (Wedemeyer *et al.* 1990). Mechanical injury is also possible during holding or netting. Isolation of the work area will temporarily interrupt salmonid rearing, feeding, and sheltering

Effects on Critical Habitat

The essential features of critical habitat include adequate: (1) Substrate, (2) water quality, (3) water quantity, (4) water temperature, (5) water velocity, (6) cover/shelter, (7) food, (8) riparian vegetation, (9) space, and (10) safe passage conditions.

The proposed action includes reshaping 1,100 linear feet of one bank of the mainstem Grande Ronde River. One layer of large rock will be placed at the toe of the streambank. Root wads and willow plantings will accompany the rock. This area is designated critical habitat for SR spring/summer Chinook salmon.

The placement of rock bank armoring is known to have adverse effects on stream morphology, fish habitat, and fish populations (Schmetterling *et al.* 2001; Garland *et al.* 2002; US Fish and Wildlife Service 2000; WDFW 2002). Schmetterling *et al.* (2001) and Bjornn and Reiser (1991) summarize the importance of natural streamside vegetation to streambank integrity and healthy fish habitat. Placement of rock armoring can preclude the establishment of natural stream-side vegetation. Woody plants with complex root systems slow the erosion of streambanks during high flows. High gradient streams such as in the Project area, are particularly dependent on woody species like willows, cottonwoods, and alders to hold streambanks together during floods. By limiting the use of rock to the toe of the streambank, the area where vegetation is precluded by the rock is reduced. Use of large rock also provides interstial space of a size large enough to be used by fish for cover.

Protecting this Project area from livestock grazing will accelerate the rate of recovery of riparian vegetation. The establishment of a healthy riparian plant community will provide stream shade and terrestrial insect drop as well as bank stabilization in the Project area. The use of rootwads will provide some overhead cover for fish and will most likely induce scour, providing pockets of pool habitat in the Project area.

An incremental change in the conservation value of critical habitat within the action area due to the proposed action cannot be quantified. However, based on the effects described above, it is reasonably likely that the proposed action will cause a small but long-term reduction in that conservation value.

Cumulative Effects

'Cumulative effects' are those effects of future state or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation (50 CFR 402.02). Cumulative effects that reduce the capacity of listed ESUs to

meet their biological requirements in the action area increase the risk to the ESU that the effects of the proposed action on the ESU or its habitat will result in jeopardy (NMFS 1999).

Water withdrawal for irrigation and livestock grazing are likely to occur at present levels for the foreseeable future. The Grande Ronde River basin is an over-allocated system with demand for water exceeding the amount available. In recent summers, irrigation withdrawals have reduce the river to a series of intermittently connected small pools. Water temperatures in these areas have exceed 70° F in recent drought years, with conditions generally unsuitable for salmonids, aquatic invertebrates, and other organisms that provide food for fish. During these times, the water table near the river drops, resulting in areas where there is insufficient moisture to maintain riparian vegetation.

Private timber harvests in Oregon are regulated by the Oregon Forest Practices Act. These regulations for private timber harvest and road building are less restrictive than those on National Forests. Timber harvest on private lands in the Upper Grande Ronde subbasin has increased in recent years. BAs from the US Forest Service describe the adverse cumulative effects from proposed private timber harvests as high. A recent BA from the US Forest Service states, "The lack of complete regulations and enforcement of existing regulations on private land timber harvests increases the likelihood of cumulative adverse effects." (US Forest Service 2004)

Between 1990 and 2000, the population of Union County increased by 3.9%.[3] Thus, NOAA Fisheries assumes that future private and state actions will continue within the action area, but at increasingly higher levels as population density climbs. Most future actions by the state of Oregon are described in the Oregon Plan for Salmon and Watershed measures, which includes a variety of programs designed to benefit salmon and watershed health.

The NRCS, ODFW, US Forest Service, Bureau of Land Management, Nez Perce Tribe, Grande Ronde Model Waterhsed Program, and other groups continue to implement restoration projects throughout the Grande Ronde basin. These projects include, but are not limited, to riparian planting, screening of irrigation diversions, fish passage improvements, culvert replacements, irrigation efficiency projects, and placement of instream structures.

Although quantifying an incremental change in survival for the ESUs considered in this consultation due to the cumulative effects is not possible, it is reasonably likely that those effects within the action area will have a small negative effect on the likelihood of their survival and recovery.

[3] U.S. Census Bureau, State and County Quickfacts, Union County, Oregon. Available at: http://quickfacts.census.govl

Conclusion

After reviewing the best available scientific and commercial information regarding the biological requirements and the status of the SR spring/summer Chinook salmon and SR steelhead, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, NOAA Fisheries' concludes that the action, as proposed, is not likely to jeopardize the continued existence of these species, and is not likely to destroy or adversely modify critical habitat.

These conclusions are based on the following considerations: (1) All instream work will occur during the ODFW in-water work window for this area (July 1 to October 15), and instream work will be limited to the amount described in the BA; (2) the use of rock armoring will be limited to one layer of large rock placed at the toe of the streambank, thus minimizing adverse effects; and (3) the Project involves significant revegetation and protection efforts that will result in establishment of a healthy riparian plant community in the Project area. Thus, the proposed action is not expected to impair currently properly functioning habitats or appreciably reduce the functioning of already impaired habitats. The Project will result in some slowing of the short-term progress of impaired habitats toward proper functioning condition by slowing or halting natural channel migration. The effects of this slowing of recovery will be minimized by the beneficial effects provided by the establishment of a healthy riparian plant community in the Project area. Therefore, the proposed Project is not expected to retard the long-term progress of impaired habitat toward proper functioning condition essential to the long-term survival and recovery at the population and ESU scales.

Reinitiation of Consultation

Reinitiation of formal consultation is required and shall be requested by the Federal agency or by the NOAA Fisheries, where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (a) If the amount or extent of taking specified in the incidental take statement is exceeded; (b) If new information reveals effects on the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (c) If the identified action is subsequently modified in a manner that has an effect to the listed species or critical habitat that was not considered in the biological opinion; or (d) If a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16). To reinitiate consultation, contact the appropriate State Office Habitat Office of NOAA Fisheries and refer to NOAA Fisheries #: 2004/00022.

Incidental Take Statement

Section 9(a)(1) and protective regulations adopted pursuant to section 4(d) of the ESA prohibit the taking of listed species without a specific permit or exemption. Among other things, an action that harasses, wounds, or kills an individual of a listed species or harms a species by altering habitat in a way that significantly impairs its essential behavioral patterns is a taking (50 CFR 222.102). Incidental take refers to takings that result from, but are not the purpose of,

carrying out an otherwise lawful activity conducted by the Federal agency or applicant (50 CFR 402.02). Section 7(o)(2) exempts any taking that meets the terms and conditions of a written incidental take statement from the taking prohibition.

Amount or Extent of Take

NOAA Fisheries expects incidental take to occur because of habitat-related effects of the proposed action that will harm, harass, injure or kill SR spring/summer Chinook salmon and SR steelhead as follows. Instream work will temporarily increase sediment, turbidity, and other pollutants in the water. This will cause most fish to avoid the action area, although some juvenile fish are likely be injured or killed because of this exposure due to reduced feeding and growth rates and, ultimately, impaired juvenile migration and growth to maturity. Further, the project is likely to modify or destroy riparian vegetation, stream banks, and channel conditions that presently provide shade, organic matter contributions, large wood, bank stability, and seasonally suitable microhabitats for holding, feeding, and resting as required for juvenile rearing.

Take caused by these habitat-related effects cannot be accurately quantified as a number of fish. In such circumstances, NOAA Fisheries provides a habitat surrogate to quantify the extent of incidental take. In this case, the extent of take will be limited to that caused by habitat-related effects that are roughly proportionate to the amount of disturbed riparian and instream rearing habitat that will be altered or destroyed by the project, *i.e.*, an area that is 1200 feet by 50 feet on the left side of the river (looking downstream) at the Project site.

Further, some juvenile Chinook salmon and steelhead are likely to be injured or killed because of capture and release efforts associated with work area isolation. No more than 100 juvenile fish may be captured in this way, and no more than five may be killed.

Reasonable and Prudent Measures

Reasonable and prudent measures are nondiscretionary measures to avoid or minimize take that must be carried out by cooperators for the exemption in section 7(o)(2) to apply. The COE has the continuing duty to regulate the activities covered in this incidental take statement where discretionary Federal involvement or control over the action has been retained or is authorized by law. The protective coverage of section 7(o)(2) may lapse if the COE fails to exercise its discretion to require adherence to terms and conditions of the incidental take statement, or to exercise that discretion as necessary to retain the oversight to ensure compliance with these terms and conditions. Similarly, if any applicant fails to act in accordance with the terms and conditions of the incidental take statement, protective coverage may lapse. The following reasonable and prudent measures are necessary and appropriate to minimize the impact on listed species of incidental taking caused by the proposed action.

The COE shall:

1. Minimize the likelihood of incidental take resulting from general construction activities, riparian disturbance, and in-water work required to complete the proposed action as described in this Opinion.

2. Minimize the likelihood of incidental take from contaminant leaks and spills associated with the use of heavy equipment near and within watercourses

3. As necessary, complete a monitoring and reporting program to confirm this Opinion is meeting its objective of minimizing take from permitted activities.

Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, the COE and its cooperators must comply with the following terms and conditions that implement the reasonable and prudent measures described above. Partial compliance with these terms and conditions may invalidate this take exemption or lead NOAA Fisheries to a different conclusion regarding whether the proposed action will result in jeopardy or the destruction or adverse modification of critical habitats.

1. To implement reasonable and prudent measure #1 (general construction, riparian disturbance, and in-water work), the COE shall ensure that:

    a. Minimum area. Confine construction impacts to the minimum area necessary to complete the Project.
    b. Timing of in-water work. Work below the bankfull elevation[4] will be completed using the most recent ODFW preferred in-water work period (presently July 1 to October 15), as appropriate for the Project area, unless otherwise approved in writing by NOAA Fisheries.
    c. Cessation of work. Cease Project operations under high flow conditions that may result in inundation of the Project area, except for efforts to avoid or minimize resource damage.
    d. Preconstruction activity. Complete the following actions before significant[5] alteration of the Project area.
        i. Marking. Flag the boundaries of clearing limits associated with site access and construction to prevent ground disturbance of critical riparian vegetation, wetlands and other sensitive sites beyond the flagged boundary.

[4] 'Bankfull elevation' means the bank height inundated by a 1.5 to 2-year average recurrence interval and may be estimated by morphological features such average bank height, scour lines and vegetation limits.

[5] 'Significant' means an effect can be meaningfully measured, detected or evaluated.

ii. Emergency erosion controls. Ensure that silt fences and straw bales[6] for emergency erosion control are onsite.

iii. Temporary erosion controls. All temporary erosion controls will be in-place and appropriately installed downslope from Project activity within the riparian area until site restoration is complete.

iv. General erosion control. Practices will be carried out to prevent erosion and sedimentation associated with access roads, construction sites, borrow pit operations, equipment and material storage sites, fueling operations, and staging areas.

v. Inspection of erosion controls. During construction, monitor instream turbidity and inspect all erosion controls daily during the rainy season and weekly during the dry season, or more often as necessary, to ensure the erosion controls are working adequately.[7]

(1) If monitoring or inspection shows that the erosion controls are ineffective, mobilize work crews immediately to make repairs, install replacements, or install additional controls as necessary.

(2) Remove sediment from erosion controls once it has reached 1/3 of the exposed height of the control.

e. Heavy Equipment. When heavy equipment will be used, the equipment selected will have the least adverse effects on the environment (*e.g.*, minimally sized, low ground pressure equipment).

f. Site preparation. Conserve native materials for site restoration.

i. If possible, leave native materials where they are found.

ii. If materials are moved, damaged or destroyed, replace them with a functional equivalent during site restoration.

iii. Stockpile any large wood[8], native vegetation, weed-free topsoil, and native channel material displaced by construction for use during site restoration.

g. Earthwork. Complete earthwork (including excavation, filling and compacting) as quickly as possible.

i. Site stabilization. Stabilize all disturbed areas following any break in work unless construction will resume within four days.

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[6] When available, certified weed-free straw or hay bales will be used to prevent introduction of noxious weeds.

[7] 'Working adequately' means that Project activities do not increase ambient stream turbidity by more than 10% above background 100 feet below the discharge, when measured relative to a control point immediately upstream from the turbidity causing activity.

[8] For purposes of this Opinion only, 'large wood' means a tree, log, or rootwad big enough to dissipate stream energy associated with high flows, capture bedload, stabilize streambanks, influence channel characteristics, and otherwise support aquatic habitat function, given the slope and bankfull channel width of the stream in which the wood occurs. See Oregon Department of Forestry and ODFW, *A Guide to Placing Large Wood in Streams*, May 1995 (www.odf.state.or.us/FP/RefLibrary/LargeWoodPlacemntGuide5-95.doc).

ii. Source of materials. Obtain boulders, rock, woody materials and other natural construction materials used for the Project outside the riparian area.

iii. Excavated material. Remove all excavated material from the 100-year floodplain.

h. Site restoration. A site restoration plan must be prepared and carried out to ensure that all streambanks, soils and vegetation disturbed by the project are cleaned up and restored as follows. The site restoration plan must contain the pertinent elements listed below, and meet requirements of all applicable laws and regulations. Submit an electronic copy of this plan with the project notification form.

i. Goal. The goal is to reestablish habitat access, water quality, production of habitat elements (*e.g.*, large wood), channel conditions, flows, watershed conditions and other aquatic habitat forming processes that were harmed during project completion.

ii. Responsible party. The name, address, and telephone number of the person responsible for accomplishment of the site restoration plan, including providing and managing any financial assurances and monitoring necessary to ensure restoration success.

iii. Baseline information. This information may be obtained from existing sources (*e.g.*, land use plans, watershed analyses, subbasin plans), where available.

(1) A functional assessment of adverse effects, *i.e.*, the location, extent and function of the riparian and aquatic resources that will be adversely affected by construction and operation of the project.

(2) The location and extent of resources surrounding the restoration site, including historic and existing conditions.

iv. Objectives. Restoration objectives that describe the extent and methods of site restoration necessary to offset adverse effects of the project, by aquatic resource type.

(1) Restore damaged streambanks to a natural slope, pattern and profile suitable for establishment of permanent woody vegetation, unless precluded by pre-project conditions (*e.g.*, a natural rock wall).

(2) Replant each area requiring revegetation before the first April 15 following construction. Use a diverse assemblage of species native to the project area or region, including grasses, forbs, shrubs and trees. Noxious or invasive species may not be used.

(3) Use as much as possible of the large wood, native trees, native vegetation, topsoil, and native channel material that was stockpiled during site preparation.

(4) Do not apply surface fertilizer within 50 feet of any stream channel.

(5) Install fencing as necessary to prevent access to revegetated sites by livestock or unauthorized persons.

v. Performance standards. Use the following standards to help design the plan and to assess whether the restoration goal is met. While no single criterion is sufficient to measure success, the intent is that these features should be present within reasonable limits of natural and management variation.

(1) Human and livestock disturbance, if any, is confined to small areas necessary for access or other special management situations.
(2) Areas with signs of significant past erosion are completely stabilized and healed; bare soil spaces are small and well dispersed
(3) Soil movement, such as active rills and soil deposition around plants or in small basins, is absent or slight and local.
(4) Native woody and herbaceous vegetation, and germination microsites, are present and well distributed across the site.
(5) Plants have normal, vigorous growth form, and a high probability of remaining vigorous, healthy and dominant over undesired competing vegetation.
(6) Vegetation structure is resulting in rooting throughout the available soil profile.
(7) Plant litter is well distributed and effective in protecting the soil with little or no litter accumulated against vegetation as a result of active sheet erosion ('litter dams').
(8) A continuous corridor of shrubs and trees appropriate to the site are present to provide shade and other habitat functions for the entire streambank.
(9) Streambanks are stable, well vegetated, and protected at margins by roots that extend below baseflow elevation, or by coarse-grained alluvial debris.

vi. Work plan. Develop a work plan with sufficient detail to include a description of the following elements, as applicable.

(1) Water supply source, if necessary.
(2) Boundaries for the restoration area.
(3) Restoration methods, timing, and sequence.
(4) Geomorphology and habitat features of stream or other open water.
(5) Site management and maintenance requirements, including a plan to control exotic invasive vegetation.
(6) Elevation and slope of the restoration area to ensure they conform with required elevation and hydrologic requirements of target plant species.

(7) Woody native vegetation appropriate to the restoration site.[9] This must be a diverse assemblage of species that are native to the project area or region, including grasses, forbs, shrubs and trees. This may include allowances for natural regeneration from an existing seed bank or planting.

vii. Five-year monitoring and maintenance plan. Develop a 5-year monitoring and maintenance plan with the following elements, as applicable.

(1) A schedule to visit the restoration site annually for 5 years or longer as necessary to confirm that the performance standards are achieved. Despite the initial 5-year planning period, site visits and monitoring must continue from year-to-year until the Corps certifies that site restoration performance standards have been met.

(2) During each visit, inspect for and correct any factors that may prevent attainment of performance standards (*e.g.*, low plant survival, invasive species, wildlife damage, drought).

(3) Keep a written record to document the date of each visit, site conditions and any corrective actions taken.

i. Vegetation Management. Do not apply herbicides within 200 feet of surface water. Manual removal of undesirable weeds (*e.g.* knapweeds, thistles, white top, *etc*.) may occur up to the streambank. Do not remove desirable riparian species (*e.g.* willows, alders, cottonwood, dogwood, hawthorn, sedges, rushes, *etc.*).

j. Fertilizer. Do not apply surface fertilizer within 50 feet of any stream channel.

k. Isolation of in-water work area. If adult or juvenile SR steelhead or SR spring/summer Chinook salmon are reasonably certain to be present, completely isolate the work area from the active flowing stream using inflatable bags, sandbags, sheet pilings, or similar materials, unless otherwise approved in writing by NOAA Fisheries.

l. Capture and release. Before and intermittently during pumping to isolate an in-water work area, attempt to capture and release fish from the isolated area using trapping, seining, electrofishing, or other methods as are prudent to minimize risk of injury.

i. The entire capture and release operation must be conducted or supervised by a fishery biologist experienced with work area isolation and competent to ensure the safe handling of all ESA-listed fish.

ii. Do not use electrofishing if water temperatures exceed 18°C.

iii. If electrofishing equipment is used to capture fish, comply with NOAA Fisheries' electrofishing guidelines.[10]

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[9] Use references sites to select vegetation for the mitigation site whenever feasible. Historic reconstruction, vegetation models, or other ecologically-based methods may also be used as appropriate.

[10] National Marine Fisheries Service, *Backpack Electrofishing Guidelines* (December 1998) (http://www.nwr.noaa.gov/1salmon/salmesa/pubs/electrog.pdf).

iv. Handle ESA-listed fish with extreme care, keeping fish in water to the maximum extent possible during seining and transfer procedures to prevent the added stress of out-of-water handling.
v. Transport fish in aerated buckets or tanks.
vi. Release fish into a safe release site as quickly as possible, and as near as possible to capture sites.
vii. Do not transfer ESA-listed fish to anyone except NOAA Fisheries personnel, unless otherwise approved in writing by NOAA Fisheries.
viii. Obtain all other Federal, state, and local permits necessary to conduct the capture and release activity.
ix. Allow NOAA Fisheries or its designated representative to accompany the capture team during the capture and release activity, and to inspect the team's capture and release records and facilities.

2. To implement reasonable and prudent measure #2 (pollution control), the COE shall ensure that:

a. Pollution Control Plan. Prepare and carry out a pollution and erosion control plan to prevent pollution caused by surveying or construction operations. The plan must be available for inspection on request by NOAA Fisheries.
i. Plan Contents. The pollution and erosion control plan will contain the pertinent elements listed below, and meet requirements of all applicable laws and regulations.
(1) The name and address of the party(s) responsible for accomplishment of the pollution and erosion control plan.
(2) A description of any regulated or hazardous products or materials that will be used for the Project, including procedures for inventory, storage, handling, and monitoring.
(3) A spill containment and control plan with notification procedures, specific cleanup and disposal instructions for different products, quick response containment and cleanup measures that will be available on the site, proposed methods for disposal of spilled materials, and employee training for spill containment.
(4) Practices will be carried out to prevent construction debris from dropping into any stream or waterbody, and to remove any material that does drop with a minimum disturbance to the streambed and water quality.
ii. Vehicle and material staging. Store construction materials, and fuel, operate, maintain and store vehicles as follows.
(1) To reduce the staging area and potential for contamination, ensure that only enough supplies and equipment to complete a specific job will be stored onsite.

(2) Complete vehicle staging, cleaning, maintenance, refueling, and fuel storage in a vehicle staging area placed outside of any riparian areas, unless otherwise approved in writing by NOAA Fisheries.

(3) Inspect all vehicles operated within riparian areas daily for fluid leaks before leaving the vehicle staging area. Repair any leaks detected in the vehicle staging area before the vehicle resumes operation. Document inspections in a record that is available for review on request by NOAA Fisheries.

b. Construction discharge water. Treat all discharge water created by construction (*e.g.*, pumping for work area isolation, vehicle wash water) as follows:

i. Water quality. Design, build and maintain facilities to collect and treat all construction discharge water using the best available technology applicable to site conditions. Provide treatment to remove debris, nutrients, sediment, petroleum hydrocarbons, metals and other pollutants likely to be present.

ii. Discharge velocity. If construction discharge water is released using an outfall or diffuser port, velocities may not exceed 4 feet per second, and the maximum size of any aperture may not exceed one inch.

iii. Pollutants. Do not allow pollutants including contaminated water or silt to contact any wetland or the two-year floodplain.

3. To implement reasonable and prudent measure #3 (monitoring), the COE shall:

a. Reporting. Within one year of Project completion, the COE will submit a monitoring report to NOAA Fisheries describing the COE's success in meeting the terms and conditions contained in this Opinion. Include the following information:

i. Project identification

(1) Project name.

(2) Project location, by 6th field HUCs and by latitude and longitude as determined from the appropriate USGS 7-minute quadrangle map.

(3) COE contact person.

(4) Starting and ending dates for work completed.

ii. Photo documentation. Photos of habitat conditions at the project and any compensation site(s), before, during, and after Project completion.[11]

(1) Include general views and close-ups showing details of the Project and Project area, including pre and post construction.

(2) Label each photo with date, time, project name, photographer's name, and a comment about the subject.

iii. Other data. Additional project-specific data, as appropriate.

[11] Relevant habitat conditions may include characteristics of channels, eroding and stable streambanks in the Project area, riparian vegetation, water quality, flows at base, bankfull and over-bankfull stages, and other visually discernable environmental conditions at the Project area, and upstream and downstream from the Project.

(1) Work cessation. Dates work ceased due to high flows, if any.
(2) Fish screen. Evidence of compliance with NOAA Fisheries' fish screen criteria.
(3) Pollution control. A summary of pollution and erosion control inspections, including any erosion control failure, contaminant release, and correction effort.
(4) Site preparation.
  (a) Total cleared area – riparian and upland.
  (b) Total new impervious area.
(5) Streambank protection.
  (a) Type and amount of materials used.
  (b) Project size – one bank or two, width and linear feet.
(6) Site restoration. Photo or other documentation that site restoration performance standards were met.

b. Effectiveness monitoring. Gather any other data or analyses the COE deems necessary or helpful to complete an assessment of habitat trends in stream and riparian conditions as a result of this project.

c. Lethal take. If a sick, injured, or dead specimen of a threatened or endangered species is found, the finder must notify the Vancouver Field Office of NOAA Fisheries Law Enforcement at (360) 418-4246. The finder must take care, in handling sick or injured specimens, to ensure effective treatment and in handling dead specimens to preserve biological material in the best possible condition for later analysis of cause of death. The finder also has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not disturbed unnecessarily.

d. Report submission. Submit a copy of the report to the Oregon State Habitat Office of NOAA Fisheries.

Oregon State Director
Habitat Conservation Division
National Marine Fisheries Service
Attn: 2004/00022
525 NE Oregon Street
Portland, OR 97232

MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

The consultation requirements of section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) direct Federal agencies to consult with NOAA Fisheries on all actions, or proposed actions, that may adversely affect essential fish habitat (EFH). Adverse effects include the direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality or quantity of EFH. Adverse

effects on EFH may result from actions occurring within EFH or outside EFH, and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810). Section 305(b) also requires NOAA Fisheries to recommend measures that may be taken by the action agency to conserve EFH.

The Pacific Fishery Management Council designated EFH for groundfish (PFMC 1998a), coastal pelagic species (PFMC 1998b), and Chinook salmon, coho salmon, and Puget Sound pink salmon (PFMC 1999). The proposed action and action area for this consultation are described in the Introduction to this document. The action area includes areas designated as EFH for various life-history stages of Chinook and coho salmon (PFMC 1999).

The effects on Chinook and coho salmon habitat are the same as those for SR steelhead and SR spring/summer Chinook and are described in detail in the Effects of the Action section of this document. The proposed action may result in short-term adverse effects on a variety of habitat parameters. These adverse effects are:

1. Riparian disturbance from accessing construction area and construction activities.
2. Increased sedimentation from instream construction activities.
3. Temporary decreases in stream shade, allochthonous input, and food available for juvenile salmonids.

EFH Conservation Recommendations

NOAA Fisheries believes that Terms and Conditions 1 (a-j) and 2 (a and b) contained in the incidental take statement of this Opinion are applicable to salmon EFH. Therefore, NOAA Fisheries incorporates each of those measures here as EFH conservation recommendations.

Statutory Response Requirement

Federal agencies are required to provide a detailed written response to NOAA Fisheries' EFH conservation recommendations within 30 days of receipt of these recommendations. The response must include a description of measures proposed to avoid, mitigate, or offset the adverse affects that the activity has on EFH. If the response is inconsistent with the EFH conservation recommendations, the response must explain the reasons for not following the recommendations, including the scientific justification for any disagreements over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects.

Supplemental Consultation

The COE must reinitiate EFH consultation with NOAA Fisheries if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NOAA Fisheries' EFH conservation recommendations [50 CFR 600.920(l)]. This EFH consultation covers the proposed activities if completed within 5

years of the signature date of this document. Proposed activities not completed within 5 years would require another consultation.

DATA QUALITY ACT DOCUMENTATION AND PRE-DISSEMINATION REVIEW

Section 515 of the Treasury and General Government Appropriations Act of 2001 (Public Law 106-554) ("Data Quality Act") specifies three components contributing to the quality of a document. They are utility, integrity, and objectivity. This section of the Opinion addresses these Data Quality Act (DQA) components, documents compliance with the DQA, and certifies that this Opinion has undergone pre-dissemination review.

Utility: This ESA section 7 consultation on the Grande Ronde River Streambank Stabilization Project, Upper Grande Ronde Subbasin, Union County, Oregon (Corps No.: 2001-00954-1) concluded that the proposed action will not jeopardize the continued existence of (SR) spring/summer Chinook salmon or SR steelhead or result in the destruction or adverse modification of critical habitat. Therefore, the Corps may authorize that action. Pursuant to the MSA, NOAA Fisheries provided the Corps with conservation recommendations to conserve EFH.

The intended users of these consultations are the Corps and the applicant. The action agency, applicant, and the American public will benefit from the consultation.

Individual copies were provided to the above listed entities. This consultation will be posted on the NOAA Fisheries NW Region web site (http://www.nwr.noaa.gov). The format and naming adheres to conventional standards for style.

Integrity: This consultation was completed on a computer system managed by NOAA Fisheries in accordance with relevant information technology security policies and standards set out in Appendix III, "Security of Automated Information Resources," Office of Management and Budget Circular A-130; the Computer Security Act; and the Government Information Security Reform Act.

Objectivity:

Information Product Category: Natural Resource Plan.

Standards: This consultation and supporting documents are clear, concise, complete, and unbiased; and were developed using commonly accepted scientific research methods. They adhere to published standards including the NOAA Fisheries ESA Consultation Handbook, ESA Regulations, 50 CFR 402.01 *et seq.*, and the MSA implementing regulations regarding EFH, 50 CFR 600.920(j).

Best Available Information: This consultation and supporting documents use the best available information, as referenced in the literature cited section. The analyses in this biological opinion/EFH consultation contain more background on information sources and quality.

Referencing: All supporting materials, information, data and analyses are properly referenced, consistent with standard scientific referencing style.

Review Process: This consultation was drafted by NOAA Fisheries staff with training in ESA and MSA implementation, and reviewed in accordance with Northwest Region ESA quality control and assurance processes.

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